

R E M A R K S

Careful review and examination of the subject application are noted and appreciated. Applicants' representative thanks Examiner Corrielus for the indication of allowable matter.

SUPPORT FOR CLAIM AMENDMENTS

Support for the amendments to the claims can be found in the drawings as originally filed, for example, in FIG. 7 and in the specification as originally filed, for example, on page 11, lines 3-15. As such, no new matter has been introduced.

CLAIM OBJECTIONS

The objection to claims 15-20 and 22 has been obviated by appropriate amendment and should be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1, 5-12 and 14 under 35 U.S.C. §103(a) as being unpatentable over FIG. 1 of the specification in view of Kindinger et al. (U.S. Patent No. 4,609,884; hereinafter Kindinger) and in further view of Le Febre (U.S. Patent No. 3,689,754) is respectfully traversed and should be withdrawn.

The rejection of claim 13 under 35 U.S.C. §103(a) as being unpatentable over FIG. 1 of the specification in view of Kindinger is respectfully traversed and should be withdrawn.

With respect to claim 13, claim 13 recites a voltage controlled oscillator (VCO) configured to generate a spread spectrum clock signal in response to a control signal, wherein **the VCO has a nonlinear gain** that is automatically controlled and varied in response to a frequency of the spread spectrum clock signal. The Office Action admits that the FIG. 1 in the background of the specification "does not teach that the VCO has a non linear gain that is automatically controlled and varied in response [to] a frequency of said spread spectrum clock signal" (page 5, lines 8-11 of the Office Action).

Kindinger does not cure the deficiencies of FIG. 1 in the background of the specification as pointed out by the Office Action. Specifically, the Office admits that Kindinger "does not explicitly teach that the gain of the VCO is non-linear" (see page 6, lines 8-9 of the Office Action). In fact, the Office Action further states that the Le Febre reference was introduced to teach such a limitation (see page 6, lines 9-10 of the Office Action). Clearly since neither the background of the specification nor Kindinger teach a VCO having a nonlinear gain, it follows that the combination of the background of the specification and Kindinger do not teach or suggest a VCO having a nonlinear gain, as presently claimed. Therefore, the combination of the background of the specification and Kindinger does not teach or suggest each and every element of the presently claimed invention. As such, claim

13 is fully patentable over the cited references and the rejection should be withdrawn.

With respect to claims 1, 5-12 and 14, the presently claimed invention (claim 1) provides a circuit configured to generate a spread spectrum clock signal, where (i) the circuit comprises **a voltage controlled oscillator having an automatically controlled nonlinear gain**, (ii) the nonlinear gain varies in response to a frequency of the spread spectrum clock signal and (iii) a function curve for the nonlinear gain is determined according to predetermined criteria. Claim 14 includes similar limitations.

The Office Action admits that the FIG. 1 in the background of the specification "does not teach that the VCO has a non linear gain that is automatically controlled and varied in response [to] a frequency of said spread spectrum clock signal" (page 5, lines 8-11 of the Office Action). The Office Action further admits that Kindinger "does not explicitly teach that the gain of the VCO is non-linear" (see page 6, lines 8-9 of the Office Action).

Le Febre does not cure the deficiencies of the background and Kindinger. Specifically, LeFebre is directed to a function generator (Title of Le Febre). LeFebre pertains to **function generators** for generating a non-linear functions using linear segments (see column 1, lines 5-8 of LeFebre). LeFebre appears

silent regarding a voltage controlled oscillator. Since Le Febre is silent regarding a voltage controlled oscillator, it follows Le Febre does not teach or suggest a voltage controlled oscillator **having an automatically controlled nonlinear gain**, as presently claimed. Thus, the combination of the background of the specification, Kindinger and Le Febre does not teach or suggest a voltage controlled oscillator having an automatically controlled nonlinear gain, as presently claimed. Therefore, the cited references do not teach or suggest each and every element of the presently claimed invention and the Office Action fails to meet the Office's burden of factually establishing a *prima facie* case of obviousness (MPEP §2142). As such, claims 1, 5-12 and 14 are fully patentable over the cited references and the rejection should be withdrawn.

Furthermore, the position taken by the Office Action that FIG. 2(d and e) of Le Febre show a graph configuration of the waveform of the gain of the VCO indicating that the gain is non-linear (see page 6, lines 10-12 of the Office Action) is not technically correct. In particular, Le Febre describes FIG. 2d as showing the predetermined gains provided by the variable gain circuit 24 of Le Febre when the control input signal of Le Febre is at a maximum level (see column 5, lines 51-54 of Le Febre). Le Febre describes FIG. 2e as illustrating how the gain of the output 53 in FIG. 1 of Le Febre with respect to the input 25 in FIG. 1 of

Le Febre varies as a function of the control input signal on lead 22 in FIG. 1 of Le Febre (see column 6, lines 31-36 of Le Febre). The input 25 and output 53 of Le Febre are part of an averaging circuit 27, not a voltage controlled oscillator. Thus, the characterization of the waveform in FIG. 2(d and e) of Le Febre as representing the gain of a VCO is not technically correct. Therefore, the Office Action fails to meet the Office's burden to factually establish a *prima facie* case of obviousness (M.P.E.P. §2142). As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Furthermore, Kindinger and Le Febre do not appear to be analogous art. The PTO classification is evidence of whether particular references are analogous art (MPEP § 2141.01(a)). The presently claimed invention has a preliminary class of 375. The class/subclass of Kindinger is 331/109 while the class/subclass of Le Febre is 235/197. Therefore, by the PTO's own classifications Kindinger and Le Febre do not appear to be analogous art.

Furthermore, assuming, *arguendo*, the gain of a voltage controlled oscillator as taught by Kindinger could be controlled by a function generator as taught by Le Febre, the Office Action fails to provide a suggestion or motivation for the desirability of a nonlinear gain for a VCO, as presently claimed. The Office Action appears to be using the solution taught only by the present

application to define the problem to be solved. It is improper, in determining whether a person of ordinary skill would have been led to a combination of references, simply to "[use] that which the inventor taught against its teacher" (*In re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002) citing *W.L. Gore v. Garlock, Inc.*, 220 USPQ 303, 312-13 (Fed. Cir. 1983)). Therefore, the Office Action fails to meet the Office's burden to factually establish a *prima facie* case of obviousness (MPEP §2142). As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Furthermore, the position taken in the Office Action that Kindinger teaches a gain of a VCO varies in response to a frequency of the output of the VCO, with the specific citation to column 1, lines 43-46 of Kindinger, is again not technically correct. Specifically, column 1, lines 43-46 of Kindinger recites that **the output level** of a VCO is held constant by detecting **the output level** of the VCO and providing a feedback signal to adjust the gain of the oscillator. One skilled in the art would clearly understand that a level of the output signal is detected and that level is used to adjust the gain of the oscillator. Nowhere in the cited passage does Kindinger refer to the frequency of the output from the VCO being fed back to control the gain of the oscillator. Rather, the feedback signal of Kindinger is based on a level of the output. Furthermore, the Office Action fails to present any

evidence or convincing line of reasoning to support a conclusion that one of ordinary skill in the art would interpret the output level referred to in Kindinger as being the frequency of the output signal. Therefore, the Office Action fails to meet the Office's burden to factually establish a *prima facie* case of obviousness (M.P.E.P. §2142). As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Furthermore, the Examiner's conclusory statement on page 6, lines 17-19 of the Office Action that "FIG. 2 of Le Febre shows that the gain is nonlinear" fails to present any evidence or a convincing line of reasoning to support the Examiner's position that Le Febre teaches a VCO gain is nonlinear and that it varies in response to a frequency of a spread spectrum signal, as presently claimed. Le Febre is silent regarding generation of a spread spectrum signal. Le Febre is also silent regarding a nonlinear gain varying in response to a frequency of a spread spectrum signal, as presently claimed. FIG. 2 of Le Febre appears to illustrate that the gain of the output signal is determined by a decoder output and a ratio of resistors not a frequency of a spread spectrum signal, as presently claimed. The combination of the background of the specification, Kindinger and Le Febre does not teach or suggest each and every element of the presently claimed invention. Therefore, the Office Action fails to meet the Office's

burden to factually establish a *prima facie* case of obviousness (M.P.E.P. §2142). As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Furthermore, the statement on page 7, lines 6-14 of the Office Action that the reasons to combine Kindinger and Le Febre are found in column 1, lines 45-58 of Kindinger and in column 6, lines 60-63 of Le Febre fails to explain what specifically about the language contained in the cited passages suggests or provides a motivation that would compel one skilled in the art to consider the combination of Kindinger and Le Febre to be desirable. Furthermore, the Office Action fails to present any evidence or convincing line of reasoning regarding the issue of whether a reasonable expectation of success exists. Therefore, the Office Action fails to meet the Office's burden to factually establish a *prima facie* case of obviousness (MPEP §2142). As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claims 2-12 depend, either directly or indirectly, from claim 1 which is believed to be allowable. As such, the presently claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claims 15 and 23 have been rewritten in independent form as suggested by the Examiner. Claims 16-22 depend, either directly

or indirectly, from claim 15 which the Office Action indicated is allowable. Accordingly, claims 15-23 are believed to be in condition for allowance.

SUMMARY OF TELEPHONE INTERVIEW

In a telephone interview on June 21, 2004, between the Examiner Jean B. Corrielus, and Applicants' representative, Robert Miller, agreement was reached that the Examiner would issue a new Office Action to address claims 20-24, which were inadvertently overlooked and to reconsider outstanding objections to claims 15-20 in light of the previous amendment. In addition, the Examiner agreed to re-start the statutory time for response.

SHOWING UNDER 37 CFR § 1.116(b)

Entry of the above amendments after a final rejection is proper under 37 CFR §1.116(b). Specifically, the claims 15 and 23 have been rewritten in independent form as suggested by the Examiner in lines 1-3 on page 6 of final Office Action. Therefore, the amendments are believed to put the claims in condition for allowance. For the above reasons entry of the above amendments is believed to be proper under 37 CFR §1.116(b). As such, the amendments should be admitted and the application allowed.

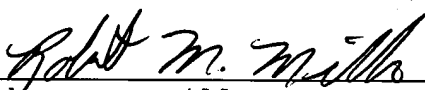
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge our office Account No. 50-0541.

Respectfully submitted,

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